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Notes on the Genus *Microdytes* (Coleoptera, Dytiscidae)  
and its Ally from Nepal<sup>1)</sup>

With 2 Text-figures

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**ABSTRACT** Two new dytiscid beetles belonging to the genera *Microdytes* and *Nipponhydrus* are described from the Nepal Himalaya under the names *M. tomokunii* and *N. quadrimaculatus*. The latter, originally described as a subgenus of the former, is herewith regarded as a full genus. This is the first record of both the genera from the Himalayas.

During my stay in Nepal as a member of the National Science Museum Expedition 1979, I was able to obtain many interesting dytiscid beetles for systematic and zoogeographic studies. Among them, I found two remarkable species, both very small and belonging to the genera *Microdytes* BALFOUR-BROWNE, 1946, and *Nipponhydrus* GUIGNOT, 1954, respectively. The latter taxon is regarded herewith as a full genus, though it was originally erected as a subgenus of the former. After a careful study, I came to the conclusion that both the species are new to science. A short series of species of these genera have hitherto been known from India and its neighbouring areas and also from Japan including the Ryukyus. Some notes will be given on both the genera, together with a check-list of the species to be included in them.

Genus *Microdytes* BALFOUR-BROWNE

*Microdytes* BALFOUR-BROWNE, 1946, J. Bombay nat. Hist. Soc., **46**: 106. — VAZIRANI, 1968, Orient. Ins., **2**: 301; 1977, Proc. Zool. Surv. India, Occ. Paper, **6**: 24. Type-species: *Microdytes belli* BALFOUR-BROWNE, 1946.

The genus *Microdytes* was erected by BALFOUR-BROWNE (1946) for two Indian species which were described at the same time under the names *M. belli* and *M. championi*. After that, two additional species were described by VAZIRANI (1968) and

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SATÔ (1972). On the other hand, two species were transferred by VAZIRANI (1968, 1977) from the related genus, *Hydrovatus* MOTSCHULSKY, 1855. In the present paper, I am going to describe one more species collected in Nepal.

A check-list of the hitherto known species of the genus is as given below:

<i>M. belli</i> BALFOUR-BROWNE, 1946	India
<i>M. championi</i> BALFOUR-BROWNE, 1946	India
<i>M. laccophiloides</i> (RÉGIMBART, 1888)	Burma
<i>M. maculatus</i> (MOTSCHULSKY, 1859)	India, Andaman Is.
<i>M. sabitae</i> VAZIRANI, 1968	India
<i>M. tomokunii</i> M. SATÔ, sp. nov.	Nepal
<i>M. uenoi</i> M. SATÔ, 1972	Ryukyus

***Microdytes tomokunii* M. SATÔ, sp. nov.**

(Fig. 1)

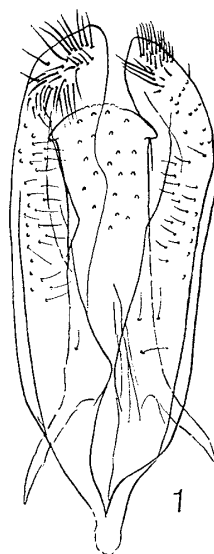
Body hemispherical, well convex, polished. Colour dark reddish brown, with legs and mouth appendages yellowish brown. Head almost twice as broad as long; surface obsoletely microreticulate with minute scattered punctures and provided with a series of minute punctures along the inner and antero-lateral sides of each eye. Pronotum about 2.6 times as broad as long, broadest at the base which is about 1.3 times as broad as the anterior breadth; sides gently rounded and narrowed anteriorly; surface smooth, mostly with fine scattered punctures which are a little more distinct than those on the head and are separated from one another by 2 to 4 times their diameter, and provided with a series of punctures along the anterior margin and with a group of punctures along the posterior margin, which are close, distinct and somewhat longitudinally rugose. Elytra about 1.2 times as broad as pronotum, a little longer than broad, broadest at the basal third, thence gently narrowed anteriorly, distinctly narrowed posteriorly; surface smooth, with minute scattered punctures which are a little more distinct than those on pronotum and almost of the same diameter as their interspaces.

Ventral surface polished. Prosternal process swollen apically with rounded apex; surface slightly rugose, except for the apical median elevated area which is smooth. Metacoxal wings finely punctate. Metacoxal line slightly traced. Claws of hind leg unequal, the longer one being a little shorter than the fifth joint of tarsus. Male genitalia as shown in Fig. 1. Male and female closely similar to each other, but the male has some suckers on the ventral surface of front tarsi.

Length: 1.4–1.5 mm; breadth: 0.9–1.0 mm.

Holotype: ♂, Ghorthali, alt. 1,600 m, Sindhu District, Bagmati Zone, Nepal, Nov. 11, 1979, M. SATÔ leg. Paratypes: 4 exs., same data as the holotype; 1 ex., Shivinokhola, alt. 1,920 m, Sindhu District, Bagmati Zone, Nepal, Nov. 14, 1979, M. SATÔ leg.

Fig. 1. Male genitalia of  
*Microdytes tomokunii*  
M. SATÔ, sp. nov.



*Further specimens examined:* 2 exs., Chutok La, alt. 2,945 m, Solukhumbu District, Sagarmatha Zone, Nepal, Oct. 6, 1979, M. TOMOKUNI leg.; 4 exs., ditto, Oct. 6, 1979, M. SATÔ leg.

The holotype and two paratypes are preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo. Three paratypes are preserved in the collection of the Biological Laboratory, Nagoya Women's University.

The present species is allied to *M. uenoi* M. SATÔ, 1972, from the Ryukyus, but is distinguished from the latter by the body colour, the polished ventral surface, the structure of prosternal process and male genitalia, and the shorter hind claws.

It is interesting that the present species is more closely related to the Ryukyuan species than to the Indian ones. This seems to suggest that the species is a relict isolated in the Himalayas.

The specimens taken at the Chutok La are slightly different from the type-series in having scattered minute punctures on the metasternum and metacoxae. This is the reason why I did not include them in the type-series.

This species is named in honour of Mr. M. TOMOKUNI who collected a part of the interesting material.

#### Genus *Nipponhydrus* GUIGNOT, stat. nov.

*Microdytes* subgen. *Nipponhydrus* GUIGNOT, 1954, Rev. fr. Ent., **21**: 196. — NAKANE, 1959, Shin Konchû, Tokyo, **12** (1): 59. Type-species: *Hyphydrus flavomaculatus* KAMIYA, 1938.

Small in size. Body oval, not much convex, shining. Dorsal surface rather closely punctate. Each elytron provided at least with a large marking near the shoulder. Prosternal process discoidally expanded posteriad, with pointed tip. Metasternal wings distinctly punctate. Metacoxal line rather distinct. Metacoxal

process angulate just inside hind trochanter.

*Nipponhydrus* was originally established by GUIGNOT (1954) as a subgenus of *Microdytes* BALFOUR-BROWNE, 1946, for the reception of the Japanese species, *Hyphyrus flavomaculatus* KAMIYA, 1938. It was characterized "par son apophyse prosternale large, subdiscoïdale et par la présence d'une seul rangée pilifère sur la face externe des metatibias, . . ." Though the latter feature is also recognized in the true *Microdytes* species, *Nipponhydrus* had better be regarded as an independent genus in view of the combination of the above mentioned characters.

Besides the type-species, two more species of the genus have been known. One of them is a new species obtained by the Nepal Expedition 1979.

<i>N. bimaculatus</i> (M. SATÔ, 1972), comb. nov.	Ryukyus
<i>N. flavomaculatus</i> (KAMIYA, 1938), comb. nov.	Japan
<i>N. quadrimaculatus</i> M. SATÔ, sp. nov.	Nepal

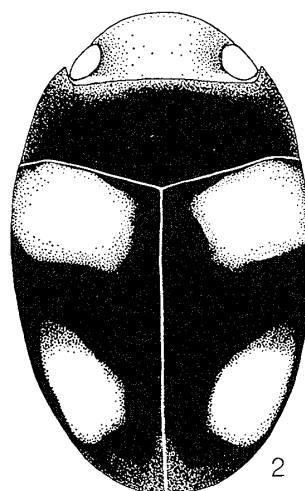
***Nipponhydrus quadrimaculatus* M. SATÔ, sp. nov.**

(Fig. 2)

Body oval, somewhat convex, shining. Pronotum and elytra dark reddish brown to brownish black; legs, mouth parts and four markings of elytra yellowish; ventral surface, head, anterior and lateral margins of pronotum, and elytral apex reddish brown. Head almost twice as broad as long; surface smooth in the main part, microreticulate in the posterior area, with scattered minute punctures; a group of punctures at the antero-lateral side of each eye more or less distinct; clypeus transversely and obsoletely impressed just behind the anterior margin. Pronotum about 2.4 times as broad as long, broadest at the base which is about 1.4 times as broad as the anterior breadth; sides slightly narrowed anteriorly; surface distinctly and sparsely punctate in the central area and closely so in the anterior and the posterior areas along the margins, and vaguely and longitudinally wrinkled in the lateral areas; integument smooth. Elytra slightly broader than pronotum, about 1.2 times as long as broad, broadest at basal third, thence slightly narrowed anteriorly and moderately narrowed posteriorly; surface sparsely and minutely punctate, and bearing fine pubescence on the postlateral parts, the interspaces being 2 to 4 times the diameter of a puncture; integument smooth; each elytron provided with large suboval markings at the base near shoulder and at the lateral side near apex.

Prosternal process distinctly expanded apicad and with blunt tip; surface rugosely punctate, longitudinally raised at the middle of the apical portion and more or less broadly elevated at the lateral sides which are smooth. Metasternal wings distinctly and rugosely punctate. Metacoxal plate scattered with fine punctures and finely and transversely aciculate. Metacoxal line moderately traced. Metacoxal process angulate at the inner side of trochanter. Abdomen obsoletely microreticulate; 3rd sternite bearing long hairs at the centre. Claws of hind leg unequal, the longer one being slightly shorter than the 5th tarsal joint. Male unknown.

Fig. 2. *Nipponhydrus quadrimaculatus* M. SATÔ, sp. nov. (Mr. K. ISHIDA del.).



Length: 1.8 mm; breadth 1.2 mm.

Holotype and paratype: 2♀♀, Lamosangu, alt. 900 m, Sindhu District, Bagmati Zone, Nepal, Nov. 20, 1979, M. SATÔ leg.

The holotype is preserved in the collection of the National Science Museum (Nat. Hist.), Tokyo. The paratype is deposited in the collection of the Biological Laboratory, Nagoya Women's University.

This new species can easily be distinguished from the two previously known species of the genus by the smaller body, the remarkable markings of elytra, the indistinct punctures of metacoxae and the structure of prosternal process.

#### ACKNOWLEDGMENT

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